

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
before the Board of Patent Appeals and Interferences

In re Patent Application of

HARRIS et al.

Atty. Ref.: SCS-124-1111

Serial No. 10/529,055

TC/A.U.: 3662

Filed: March 24, 2005

Examiner: T. Brainard

For: BISTATIC LASER RADAR APPARATUS

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August 19, 2009

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Sir:

**REPLY BRIEF**

This Reply Brief is responsive to the new points of argument raised in the Examiner's Answer mailed June 19, 2009, the date of response to which is August 19, 2009.

Appellant is of the opinion that the portion of the Examiner's Answer in section 9 "Grounds of Rejection" beginning on page 3 and continuing to page 7 is essentially a verbatim copy of that set out in the 4<sup>th</sup> and non-final Official Action mailed August 22, 2008 between pages 2 and 6 and, as such, is fully responded to in the previously filed Appeal Brief. Appellant responds to the newly raised issues and points of argument set out in section 10 "Response to Argument" of the Examiner's Answer beginning on page 7. The Examiner's "Response to Argument" is organized so as to respond to issues A-O

as set out in the Appeal Brief and therefore Appellant will follow this organization in the response.

**A. Examiner's Response to Appeal Brief Section A, i.e., The Examiner again appears to ignore the requirements that each independent claim requires a "bistatic" laser radar device**

In the paragraph bridging pages 7 and 8, the Examiner states that a "laser radar is a device that uses a laser beam to scan an area to create a picture of the area." This is not the structure that is claimed in independent claims 1, 18 and 21 or claims dependent thereon.

The Examiner again ignores the point raised in the Appeal Brief under heading A, i.e., the non-final Rejection (and now the Examiner's Answer) does not even mention that each of the independent claims requires a combination of elements which comprises a "bistatic laser radar device" (emphasis added).

It is noted that the Examiner, other than his restatement of the Appeal Brief argument A, fails to even mention the word "bistatic." He appears to ignore the fact that current decisions of the Court of Appeals for the Federal Circuit as recited in the Manual of Patent Examining Procedure (MPEP) Section 2111.02 requires that the claim preamble be construed as if in the balance of a claim. The Examiner does not dispute the allegation that he has failed to follow the requirements of the MPEP in properly construing each of the independent claims.

Furthermore, the Examiner does not dispute that Appellant's specification defines a "laser radar" (also known as a LIDAR) which is well known to be a system for Light Detection and Ranging.

The Examiner does not dispute that on page 4, lines 1-4 of Appellant's specification, the differences between "monostatic LIDAR systems" and "bistatic LIDAR systems" is discussed.

Additionally, while Appellant's claims use the term "bistatic laser radar" in a manner well known to those of ordinary skill in the art to define a particular type of LIDAR system (the definitions of these terms are the conventional dictionary definitions of the words), Appellant's specification also contains a non-conflicting definition of those terms.

Accordingly, the Examiner is bound to construe the claim terms as discussed in the Appeal Brief and the Examiner's failure to properly construe independent claims 1, 18 and 21, as well as claims dependent thereon, is clearly reversible error.

Appellant notes that the Examiner's statement that a "laser radar device is a device that uses a laser beam to scan an area to create a picture of the area" is, at best, not the dictionary definition of a "bistatic laser radar device" or the definition set out in the specification and used in the claims and, at worst, is simply misleading. Appellant's claims do not specify the broad "laser radar device" category, but rather a more limited "bistatic laser radar device." Therefore, the Examiner's discussion of an unlimited "laser radar device" is simply irrelevant and misleading and avoids the limitations positively recited in Appellant's claims, as known by those of ordinary skill in the art in accordance

with their normal dictionary definitions and also as specifically defined in Appellant's specification. The Examiner has committed reversible error by failing to properly construe the claim language.

An additional issue that the Examiner continues to ignore is that Appellant's claim also recites the limitation "radar" ("A bistatic laser radar device") and an aspect of all types of radar is that target information is obtained from the timing of the transmitted and received beam or pulse. This "timing" or temporal aspect is completely absent from the Schneiter patent which operates exclusively based on geometric spatially. In the Schneiter reference, information is derived based on angular and positional variations, whereas in the present invention range or velocity information is derived based upon the temporal element or timing of the returned signal.

The Examiner's ignoring of claim terms "bistatic" and "laser radar device" is clearly reversible error.

**B. Examiner's Response to Appeal Brief Section B, i.e., The Examiner fails to demonstrate that the cited prior art teaches a "bistatic laser radar device"**

The Examiner's only statement rebutting Appellant's detailed discussion as to why each of the Schneiter references fail to contain any disclosure of a "bistatic" or a "laser radar" (or LIDAR) device is apparently ignored.

The Examiner's only comment is that "measuring the distance using triangulation does not preclude the device from being bistatic laser radar." This nonsensical statement does not aid the Examiner in making his *prima facie* case of obviousness. The

requirement of a *prima facie* case of obviousness is not what the prior art fails to preclude an invention from being, but is what the prior art actually teaches. In this instance, the Schneiter references, as has clearly been established in Section B of Appellant's Appeal Brief, contain no disclosure of any "laser radar device," let alone the claimed "bistatic laser radar device."

The Examiner's only other argument is the statement that "[t]riangulation is merely a different method for determining distance to an object." Without perhaps realizing it, the Examiner has clearly admitted Appellant's argument, i.e., the triangulation method of determining distance to an object as taught in Schneiter is a "different method" for determining distance to an object than the method recited in Appellant's claims, i.e., using a "bistatic laser radar device."

It is apparently the Examiner's contention that one distance measuring device anticipates and/or renders obvious all other possible distance measuring devices. Such is not the standard of obviousness under 35 USC §103 and the Examiner has simply failed to set out any *prima facie* case of obviousness, as noted in Appellant's Appeal Brief.

**C. Examiner's Response to Appeal Brief Section C, i.e., The Examiner fails to demonstrate that the cited prior art teaches a "variable focus receive beam"**

Again, in Section C beginning on page 8 of the Examiner's Answer, the Examiner ignores Appellant's claim language. The Examiner states that the claim merely requires a "variable focus receive beam" and that this general feature is shown by the motorized zoom lens 208 in Schneiter.

Again, the Examiner is ignoring the fact that the claim requires a receive channel of a “bistatic laser radar device” and that, as such, it is a “variable focus bistatic laser radar beam.” Of course, as noted above, there is no such bistatic laser radar beam disclosed in the Schneiter reference. This is clearly pointed out in the Appeal Brief and is not disputed by the Examiner.

As a result, it is deemed that the Examiner admits that the Schneiter reference fails to disclose any structure comprising a “variable focus receive beam” of a bistatic laser radar device.

**D. Examiner’s Response to Appeal Brief Section D, i.e., No prior art reference teaches the claimed interrelationship that “all points of focus of the transmit beam and all points of focus of the receive beam fall on a common axis within the operable distance range of the device”**

In the paragraph bridging pages 8 and 9 of the Examiner’s Answer, the Examiner states that the device focuses the transmit beam and the receiving beam on a far object in Figure 6a and on a near object in Figure 6b. However, this is not what is required by the claim language.

Instead, the Examiner apparently ignores the distinction raised in the Appeal Brief, i.e., that the transmit and receive beams must be coherent laser beams to be part of a LIDAR. As noted earlier, not only does the Schneiter reference fail to contain any disclosure of LIDAR beams (Schneiter at column 1, lines 28-34, actually teaches that the LIDAR systems are “typically expensive and complex”) and the Schneiter invention uses a different technique “called triangulation” (column 1, line 46).

The Examiner also does not indicate where he believes the Schneiter reference teaches the arrangement specified in Appellant's independent claims, i.e., that "all points of focus of the transmit beam and all points of focus of the receive beam fall on a common axis within the operable distance range of the device." Thus, the Appeal Brief statement that Schneiter does not teach the claimed interrelationship between arrangements must be taken as admitted by the Board, since the Examiner has failed to meet his burden of establishing that the Schneiter reference contains any disclosure of this claimed feature.

It should also be appreciated that, while Schneiter does show two configurations where the claimed focus condition is met, this does not disclose that "all points of focus of the transmit beam and all points of focus of the receive beam fall on a common axis." In Schneiter there are simply the designated two points of focus and that for many other configurations in Schneiter the claimed focus condition would not hold true.

The Examiner argues that the device in Figures 15a and 16 "can easily be adjusted to perform the same operation," this statement is factually incorrect because Schneiter does not contain any disclosure of a bistatic laser radar device having a receive channel forming a variable focus receive beam. Moreover, the fact that the prior art "can . . . be" adjusted to disclose a claimed configuration, does not indicate that it discloses that claimed configuration – in fact, it would seem to teach away from the claimed configuration.

In any event, the Examiner fails to indicate where the prior art teaches the claimed interrelationship between claim elements and therefore fails to teach that they “are arranged as in the claim.” *Lindemann*.

**E. Examiner’s Response to Appeal Brief Section E, i.e., The Examiner fails to allege that any other prior art reference teaches the claim elements and/or interrelationships which are missing from the Schneiter patents and thus no combination of cited art can establishes a *prima facie* case of obviousness**

In the brief response to Appeal Brief Section E, the Examiner on page 9 of the Examiner’s Answer argues that “other prior art is not required to teach the claim elements and/or interrelationships which are missing from the Schneiter patents and therefore are not required to reject claims 1, 18 and 21.”

The Examiner appears not to dispute that the Schneiter references do not disclose each and every claimed element and each and every claimed interrelationship between elements (see the Appeal Brief on page 7 and the citation to the *Lindemann* case which confirms that all elements and all interrelationships between elements are necessary for an anticipation rejection). This is noted above and in the Appeal Brief, because all claimed elements and interrelationships between claimed elements are not disclosed in either of the Schneiter references and therefore there can be no anticipation rejection.

Section E merely notes that the Examiner has not alleged that the missing elements are disclosed in any secondary references in order to support an obviousness rejection. Accordingly, if the claimed elements and claimed interrelationships between elements are not disclosed in a combination of cited references, there can be no *prima*

*facie* case of obviousness under 35 USC §103. The Examiner's apparent failure to recognize this point confirms the Examiner's failure to meet his burden of establishing a *prima facie* case of obviousness.

The Examiner also ignores the point in the Appeal Brief which also notes that the Examiner, in addition to failing to indicate where the prior art discloses all claimed elements and claimed interrelationships, also has failed to meet his burden of providing some explicit "analysis" as required by the Supreme Court in order to pick and choose elements from the references and then combine them in the manner of Appellant's claims.

The Examiner does not dispute that this is the appropriate standard by which an obviousness rejection is judged and therefore is taken as admitted.

**F. Examiner's Response to Appeal Brief Section F, i.e., The Examiner fails to appreciate that both Schneiter patents would lead one of ordinary skill in the art away from Appellants' combination claims**

In purported rebuttal to the point that the Schneiter patents would lead one of ordinary skill in the art away from Appellant's claims, the Examiner merely states that the patents "teach a scanning laser to scan an area and therefore teach a laser radar." (Examiner's Answer, page 9). Whether or not Schneiter teaches scanning an area is irrelevant to what elements comprise the scanning device. Schneiter specifically teaches away from using a LIDAR device.

Appellant has previously noted that the Schneiter patents teach that LIDAR systems are "typically expensive and complex" and, instead of a LIDAR, suggests that

those of ordinary skill in the art use the cheaper and simpler “triangulation” technique for the desired machine vision systems. Thus, the Schneiter references clearly would lead one of ordinary skill in the art away from the “expensive and complex” LIDAR systems (whether or not “bistatic”), thereby confirming that the teaching in both Schneiter references is to lead one of ordinary skill in the art away from Appellant’s combination claims.

Thus, as noted in the Appeal Brief, even if a *prima facie* case of obviousness had been made out (and it clearly has not been made by the Examiner here), such a case is legally rebutted by the Schneiter references teaching away from the claimed combination.

### **Examiner’s Response to Appeal Brief Sections G-O**

With respect to the Examiner’s rebuttal of Sections G-O in the Examiner’s Answer, there is believed to be no new issue raised which would require further comment other than that previously set out in detail in the Appeal Brief between pages 14 and 22. Accordingly, there is no need to provide any further response to these rather formulaic denials by the Examiner.

### **CONCLUSION**

In summary, the Examiner continues to improperly ignore claim limitations specified both in Appellant’s claim preamble and in the body of the claims. The Examiner also ignores specified interrelationships between elements in the claims. The Examiner fails to give the claim terms their dictionary meaning as well as the meaning

defined in the specification. The Examiner's failure to properly construe claims is the first primary ground for reversal of the Examiner's rejections.

The second ground for reversal is that, if the claims are properly construed, the Examiner does not, as yet, apparently appreciate that the prior art does not teach the claim limitations.

The third major ground of reversal is the fact that, even if the claim limitations were disclosed somewhere in the cited prior art references (and this is not conceded, as noted above), the Examiner also fails to provide any explicit "analysis" of why one of ordinary skill in the art would pick and choose the claimed elements from the various references and then combine them in the manner of Appellant's claims. Both a disclosure of the claim elements and the "analysis" are necessary in order to establish a *prima facie* case of obviousness. The Examiner has failed to identify evidence for either and therefore has not established a *prima facie* case of obviousness.

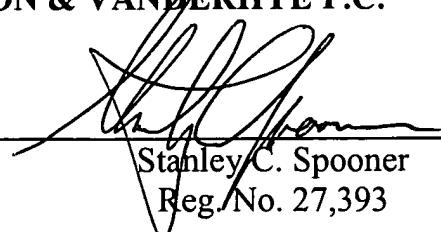
Finally, the Examiner has failed to identify any error in Appellant's argument that the Schneiter reference teaches away from the use of "expensive and complex" LIDAR systems and instead suggests the simple "triangulation" technique. Such a negative teaching legally rebuts any *prima facie* case of obviousness even if one had been made.

While Appellant's Appeal Brief focuses on independent claims 1, 18 and 21, it is clear that these claims and all claims dependent thereon are patentable over the references cited in the outstanding Official Action and any further rejection thereunder is respectfully traversed.

Thus, in view of the above and the previously submitted Appeal Brief, the rejection of claims under 35 USC §102 and/or 103 is clearly in error and reversal thereof by this Honorable Board is respectfully requested.

Respectfully submitted,

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